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The Rope Maker

By WILLIAM B. SPRAGUE

[AUTHOR'S NOTE. — The excellent article by Mr. George M. Simmons, which appeared in our last issue, on *Tow Rope*, as it was made on the old-time farm, inspired the writer to look into the subject of rope making, as a trade, and the following article is the result of this research. The capital letters, interspersed through the text, refer to the list of authorities at the end.]

Cordage made from hemp dates back at least to the time of Pliny (A), and rope making was one of the first industries which engaged the attention of the American colonists, although hemp was not cultivated here until about 1630, having previously been imported from England (B). For the next two hundred years, its manufacture was conducted by means of the few primitive mechanical devices hereafter described, for it was not until about 1820 that American rope makers began to avail themselves of English machinery (A), and, as late as 1837, a writer on the subject stated that "these not having been generally adopted, it is unnecessary to notice them more particularly" (C). Most of the crude machines and laborious processes, which had served so well during this long period, became obsolete about the middle of the 19th century.

As previously stated in our columns (Vol. I, 20-6), hemp was prepared for use by processes almost identical with those for flax, except that it had to be "dressed gently, as it would waste with hard beating" (see also F), and, in this connection, see also *Flax Dressing by Hand*, THE CHRONICLE, Vol. I, 17-1. One important difference, however, was that, while the flax-dresser endeavored to comb out all the coarser part, known as tow, the hemp-dresser used his hetchels only for straightening and aligning the fibres, except when they were to be used for some superfine quality of cordage (D).

The first step in the manufacture of rope was to spin the hemp into yarn, and the general principle of this process was very similar to that of wool-spinning (see THE CHRONICLE, Vol. II, 17). The machine used for this purpose, and here pictured (Fig. 1A), consisted of two upright posts with a

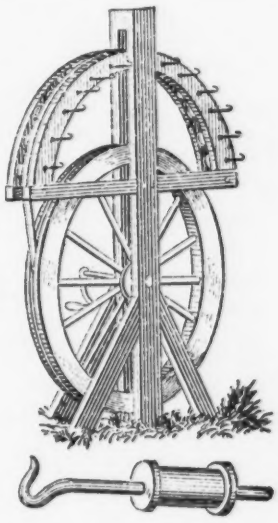


Fig. 1A (*above*) — MACHINE FOR SPINNING YARN

Fig. 1B (*below*) — ONE OF THE WHIRLS

wheel between them, connected by a belt with a number of rollers, usually twelve, called *whirls*, in which metal hooks were mounted (Fig. 1B). By turning the crank of the wheel these rollers were caused to revolve rapidly and spin the hooks (A). This machine was placed at one end of a shed, usually about a quarter of a mile long, known as a *rope-walk* (C, E). Sometimes the walk was not covered, but merely shaded by one or more parallel rows of trees, planted for that pur-

(*Continued on page* 100, *column* 1)

The Shaker and Shaker Industries

By WILLIAM LAWRENCE LASSITER

(*Read at Albany meeting. Photographs by the late E. J. Stein*)

All the activities of the Shakers, or the United Society of Believers in Christ's Second Appearance, have been influenced by their religious philosophy. Visitors to any Shaker colony, or to an exhibit of Shaker arts and crafts, at once observe something distinctive.

The Shakers adored God as the Creator of all good,—life, truth and love. He, the eternal Father-Mother, found His fullest manifestation in Jesus of Nazareth as a man and in Ann Lee as a woman. The second appearance of Christ on earth, as her followers believed, was Mother Ann Lee (1736-1784). She came to America from Manchester, England, in 1774, through divine guidance to establish the Church of the final dispensation, and all who accepted her as the Christ Spirit, according to their belief, became children of God, and therefore ceased committing sin and lived in obedience to His will.

Mother Ann Lee, as she was called, and eight followers arrived in New York City in 1774, and in 1776 established themselves at Niskeyuna, Albany County, New York. The land was purchased from the Van Rensselaer Memorial Estate (see foot note, next page) by John Hocknell (1723-1799), a man above average wealth for that time. Here they built their simple log homes, and began their itinerant missionary work, led by Mother Ann Lee and Father James Whittaker (1751-1787). From Niskeyuna, now called Watervliet, spread the doctrine of the Believers in Christ's Second Appearance, or Shakers, into the vicinity of New Lebanon, New York, and Pittsfield, Massachusetts.

Mother Lucy Wright (1760-1821), one of the earliest converts of Pittsfield, and Father Joseph Meacham

(1742-1796) were largely responsible for the execution of the plans of the Elders and Mother Ann to have the Believers live in communes away from the influence of the "world's people". Thus sprung up the settlements on the west side of Mount Lebanon, the "Holy Mount"; the first and oldest collective living group in America, who still adhere to the original religious philosophy of its founders.

Early in the days of their social organization, the Shakers realized their inability to live entirely apart from the world. They learned that they could remain self-sustaining, but there must be some outlet for the over-production of their agricultural and manufactured products beyond their own home needs. They required raw materials for their industries from the outside, and they had to dispose of the excess product to the "world's people". This necessitated changes in economic policies from time to time among the Shakers, and in this adjustment, was found a new impetus to their industrial order. New methods in agriculture and manufacturing gave rise to many prominent Shaker industries. Among them was the package garden seed industry, the preparation of medicinal herbs and extracts, chair manufacturing, tanning, making of many kinds of textiles, broom-making, cutlery and tool making, and cooperage.

The very earliest of industries of the Shakers was that of weaving. The early converts, who had woven in their homes before joining the Shakers, continued and perfected their task of weaving by hand looms, and, collectively in the Shaker workshops, produced large quantities of dress and suit cloth, blankets, bed spreads, carpet, rugs and other textiles for home use, and for the markets of the United States.

Early Shaker account books and their publication, *The Shaker Manifesto*, reveal that the herb industry brought a large annual revenue to the various Shaker groups from the last quarter of the 18th century to the last quarter of the 19th century. The medicinal and culinary herb business was conducted by persons having an intimate knowledge of plants and medicine. Records show that this business began at Niskeyuna about 1790. Shaker Brethren, traveling by means of horse carts, acted as agents for these products and were always welcomed by city and village stores for their dependable Shaker seeds and herbs.

OBJECTS ILLUSTRATING THE SHAKER HERB INDUSTRY (NEW YORK STATE MUSEUM)

One of the most prosperous industries at Watervliet and Mount Lebanon was that of tanning. They not only sold finished leather, but manufactured shoes, harness, saddles and whip lashes.

The Shakers were pioneers in the manufacturing of chairs in America. Chairs were first made in quantities at Mount Lebanon in 1853, and this survived all other industries among the Shakers. The chairs were noted for their lightness of frame and durability. Many of the straight chairs were fitted with — a Shaker innovation — the "ball and socket" at the base of the rear posts. This device prevented slipping as well as injury to floor or car-

FOOT NOTE

Memorandum attached to the Indenture of March 3, 1797, between David Osborne and Stephen Van Rensselaer, Esquire and Proprietor of the Manor of Rensselaerwyck in the counties of Albany and Rensselaer, reads:

"Mem. David Osborne and P. Dodge says that they nor the Society never had a Deed of this kind delivered to them to their knowledge, there has been some expectation of procuring such a deed but it was never obtained it comprehends the ground where their meeting House and principal Buildings are erected — April 18, 1822".

This deed is for 208 acres of the Church Family of Shaker property where the original settlement was established.

Van Rensselaer Manuscripts, New York State Library, Albany, N. Y.

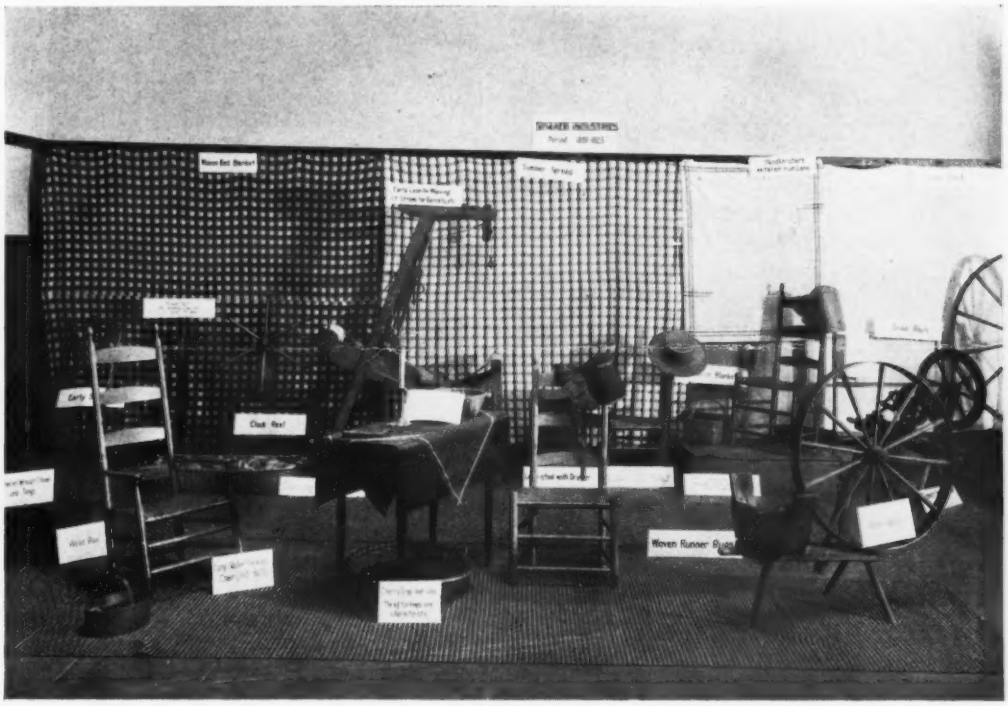
pet. Robert Wagan (1833-1883) was responsible for the rapid growth of the chair industry. Through his management and keen insight, chairs were placed in the stores of large cities of northeastern United States and as far west as Chicago. After his death in 1883, Elder William Anderson (1841-1930), a man of equal ability, took over the business. Today, Eldress Sarah Collins (born 1855), his successor, and Sister Lillian Barlow carry on this business at Mount Lebanon.

In 1798, the Watervliet, or Niskeyuna, colony began to make brooms and offer them for sale. Brother Theodore Bates (1762-1846) invented the first flat broom-corn broom, such as is in common use today. Previous to this brooms were round. Clothes brushes of both hair and broom-corn fiber were made at Mount Lebanon and Watervliet until after the Civil War.

The Church family at Mount Lebanon developed the cooperage business, where the output was enormous and steady for over twenty years. Shaker pails, churns, firkins, barrels and tubs were in demand throughout New York State and New England.

The Shaker doctrine of celibacy, the economic-social changes brought on by the Civil War, particularly the industrialization of the north and the agricultural development of the western United States were contributing factors to the decline of Shakerism. The basic doctrine of Shakerism required that the group exist as celibates, therefore, their numbers were dependent upon voluntary adult converts or the adoption of children. Many of the converts had been orphans, whom the Shakers had reared from infancy, and, like all other persons, upon reaching the age of twenty-one, made application to the Elders for admission to the Society as Convenant members. Others upon reaching majority, withdrew from the Society. The strict discipline of the Shakers was less attractive to young men and women. The opportunities for earning a profitable living for women were at this time increased in various fields of industry and business. With the development of the orphanages, supported by public taxation, the supply of children for the Shakers was diminished. Year by year the Shaker membership decreased, from several thousand in 1860 to less than one hundred today.

The only remaining groups of the nineteen societies, located in seven states of the Union, are now at Mount Lebanon, New York; Pittsfield, Massachusetts; Canterbury, New Hampshire; and Sabbathday Lake, Maine. Thus a dominant group surrounded and absorbed those who preferred to continue as they did from the beginning, and today threatens them with extinction. Here will end a story of those who were pledged to "Put your hands to work and give your hearts to God." However, their contribution to industry and culture was indicative of what could be done by a devoted, well organized, social, economic, and religious system. Out of this very system which the Shakers practiced grew the idea of mass production in American industry, which is followed today in the seed packet industry, canning industry, chair and furniture manufacturing, medicinal and culinary herb business, as well as in other important American industries. The very factory system which the Shakers created and perfected helped to destroy their organization. The "world's people" were only willing to invest capital to further their accumulated wealth, while the Shakers were only interested in enough to provide a comfortable living for their communal life.



Objects Illustrating Shaker Household Industries (New York State Museum)

The Rope Maker

(*Continued from page 97, column 2*)

pose (E). The spinner made up a bundle of dressed hemp and tied it around his waist, leaving an opening in front (F). He then fastened several fibres to one of the hooks of the machine (D, F), which was called *setting on* (F). As many spinners could work at once as there were hooks (F, G). Another workman, often a woman or a boy, then commenced to turn the crank, thus twisting the fibres which were held between the two middle fingers of the right hand of the spinner, the said fingers being covered by a heavy woolen cloth (G). With his left hand, the latter kept feeding more fibres evenly into the twisting yarn, at the same time stepping backward at the rate of about two miles an hour (F). Within his reach, overhead, were hooks fixed in wooden cross-pieces about thirty feet apart (F), and, as he passed these hooks, he tossed the spun yarn over them to prevent it from sagging to the ground (G). Naturally, great care was taken that each fibre entered the twist at its extreme end rather than towards its middle (D, E), and that the twist should not be too tight, which would shorten and weaken the yarn unnecessarily (F, G). The degree of the twist was regulated partly by the rapidity of the wheel's motion, which in turn was controlled by gestures of

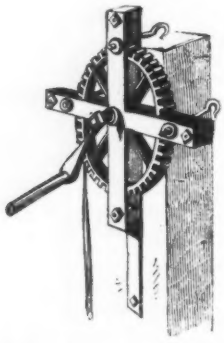
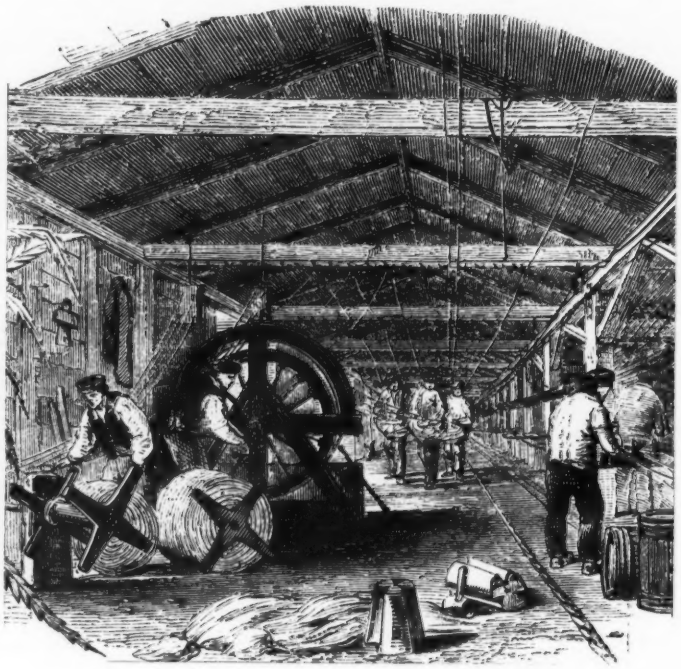


Fig. 2 — Wheel for Twisting Strands

the spinner (F), and by the pace at which the latter walked (E). Sometimes there was a spinning machine at each end of the walk, and, in this case, if more than one spinner were at work simultaneously, when they reached the end of the walk, they temporarily fastened the ends of their spun yarns together, called *nettling*, and proceeded to spin new yarns, retracing their steps to the end from which they had started (F). Ordinarily, however, as soon as the spinner had completed his first journey, he called out to the wheelman, and the latter, or a third person, detached the yarn from the hook and attached it to a reel nearby (C, E). The yarn was then wound on the reel, the spinner slowly approaching and holding it taut (F). If a second yarn was ready, it was "joined" to the end of the first and followed it on the reel (D). None of the authorities consulted state specifically how this "joining" was accomplished, but presumably it was by splicing. A normal day's work for a spinner involved an eighteen-mile walk (F).



The Rope Walk

The yarn was usually tarred. While this decreased its strength by about thirty per cent., and to some extent, its pliability, it prolonged its life, under weather exposure, about twenty-five per cent. (F). The yarns were unwound from the reel and stretched straight and parallel, and three or four hundred of them were bundled and slightly twisted into a large group or *haul* about one hundred yards long (A, F). The haul was dipped into a kettle of tar, heated to about 212 degrees, and then dragged, by means of a capstan, through a hole, sometimes surrounded by spongy oakum (C, D), but generally bored through a metal plate, called a *grip*, or *gage*, or *sliding-nipper* (A, F). This pressed the tar into the yarn and removed the surplus.

The next operation was twisting or *laying* the yarns into the three strands, from which a rope was ordinarily made, "the twist of the strand being in an opposite direction to that of the yarns, in order to counteract the tendency of the separate yarns to untwist, and the yarns in their turn may counteract the tendency of the strand to untwist" (F). In the case of the smaller strands, this was done by attaching the ends of each of the bundles of yarn to one of the three hooks of the machine shown in Fig. 2, and tieing their other ends to posts, the yarns being supported at intervals by *stake-heads*, which were posts, to each of which a cross-piece had been nailed, the latter being furnished with

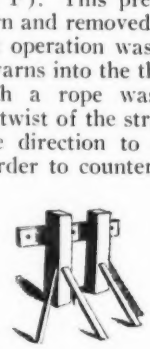


Fig. 3 — Tackle Board

a number of short upright pegs, to keep the strands separate (F). When the crank of the machine was turned, each of the hooks was caused to spin and twist the bundle of yarn attached to it. The machine pictured in the cut is apparently made of iron, but most of the specimens seen have been entirely of wood. In the case of larger strands, the same function was performed by the *tackle-board* (Fig. 3),

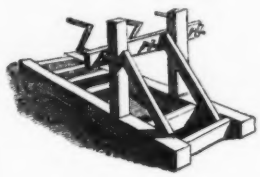


Fig. 4 — Sledge

which could employ the strength of three persons. The author to whom we are indebted for the original of the illustration states that "Winches or *fore-lock hooks* work through these holes," but does not explain why they do not show in the picture. However, he says, at a later point, "The upper part of the *sledge* (Fig. 4), called the *breastboard*, corresponds to the tackle-board," which perhaps gives us a sufficiently clear idea of the latter. When twisted as tight as possible between these two stationary points, the ends of the strands were transferred from the posts to the three hooks of the sledge, and the latter loaded with press-barrels, i.e., old tar-barrels filled with clay, and pulled back to stretch the strands tight. The cranks of the tackle-board and of the sledge were then turned in opposite directions, drawing the sledge toward the tackle-board as the strands were shortened, until the latter were *full hard* (F).

To lay the three strands into a rope, the ends attached to the tackle-board were all shifted to its middle hook. The *top* (Fig. 5) was a block of wood, in the shape of a truncated cone, with three deep grooves cut lengthwise in its sides, and a round stick was sometimes thrust transversely through it, to form the handle or *woolders* (A, F). This was inserted between the strands, so that the latter lay in its grooves, and forced as closely as possible to the hook on the tackle-board. The three hooks on the sledge, to which the other ends of the strands were still attached, were then revolved in one direction and the hook of the tackle-board in the other, twisting the strands together, the top regulating the twist, but being gradually "squeezed out" of the rope as it was formed, until it was brought up close to the sledge (A, F, G), and the rope was finished. For laying small ropes, an instrument called a *loper* was often substituted for the tackle-board. It could be held in one hand, and its one hook turned by a crank held in the other (A, C).

A three-strand rope was said to be *hawser-laid*, one of four strands *shroud hawser-laid*, and one made by laying three hawser-laid ropes together a *cable*. One formula for calculating the strength of a rope was as follows: "Multiply the circumference of the rope in inches by itself and the fifth part of the product will express the number of tons the rope will carry. Thus, if a rope be 6 inches in circumference, $6 \times 6 = 36$, the fifth of which is 7 1/5" (F).

Fig. 5 — Tops for Laying Strands

AUTHORITIES

(A) *American Mechanical Dictionary*, Edward H. Knight, New York, 1874, pp. 1358, 1980, 2272; (B) *The Great Industries of the United States*, J. B. Burr & Hyde, Hartford, 1873, p. 285; (C) *Panorama of Professions and Trades*, Edward Hazen, Philadelphia, 1837, p. 56; (D) *Dictionary of Arts, Manufactures and Mines*, Andrew Ure, New York, 1850, p. 1075; (E) *Book of English Trades*, C. & J. Rivington, London, 1827, p. 274; (F) *Cyclopedia of Useful Arts*, Charles Tomlinson, London, 1852, p. 563 (Vol. II); (G) *Illustrations of Useful Arts and Manufactures*, Charles Tomlinson, London, 1858, p. 54. All cuts are from (G), except Fig. 1, which is from (A), p. 2272.

The New York State Museum

By Dr. Charles C. Adams, *Director*
(*Read at the Albany meeting*)

The New York State Museum is over one hundred years old and is devoted primarily to research on the natural resources of the state in relation to the welfare of the people. It covers the fields of science, history, industry and art, but of course all branches have not been equally developed. The State Museum is thus more than an exhibition or display museum, because it is a *productive institution*, on account of its research and educational work. The exhibits are mainly devoted to science, but a considerable amount of art and history is included, both regarding nature and man. Thus the geological history of the state is very fully told, as well as that of the Indians of the state, as shown by the Iroquois groups, and its many bulletins on that subject. The achievements of the white man are covered mainly by exhibits of contemporary industries, such as those of oil, gas, salt, iron, glass and clay.

Of the old industries, although little material is displayed, those pertaining to household and agricultural pursuits are well represented in the storerooms, which contain large collections of considerable value. These include plows, cradles, looms, spinning wheels, surgical instruments, and scientific apparatus, such as microscopes, sextants, clocks, surveying instruments and similar equipment. The most extensive historic series is that of the Shakers. These consist of textiles, furniture, tools for wood and iron working, and samples of many of their products. If you visit the museum, you will be able to see some samples in the storeroom; and finally the museum publications give a rather full account of some of these materials, and supplement the series of photographs and architectural drawings.

These collections of history, industrial history of the state and art, are not merely for display but are the basis for careful technical studies by competent students, and are a repository for future generations to consult and use as they see fit. It is a common misapprehension of the general public, and even among educated people, that museums should exhibit all their collections. This is no more desirable than when you buy a dictionary or the *Encyclopedia Brittanica*, you read them through at once, or if you buy a bushel of potatoes, you eat them all at one meal! You have these to use when needed, and museums, like libraries, need collections of books and objects for consultation and for prolonged study, not always primarily for display.

The Chronicle

The Pineapple Cheese Industry of Goshen, Conn.

By William L. Warren

[This article is largely based on the personal recollections of Mrs. George H. Decker, of Watertown, Conn., and on reference material furnished by her. The author wishes to note here his grateful appreciation of her invaluable assistance.]

Goshen was aptly named. The time has not long past when this dreaming hill town was "a land flowing with milk and honey." It was not merely a flourishing community of minor industries and crafts but, in a true sense, the land flowed with milk, if not so much of honey, for the settlers realized the grazing value that could be derived from the fertile soil and, from the first, concentrated on raising cattle. The Goshen Fair is now a lingering expression of the pride of these dairy farmers.

The village and its surrounding farms lie on those long and gently sloping drumloid hills, relics of the Great Ice Age, which are so characteristic of many parts of New England. It was, and still is, ideal land for farming.

In the days when the farm was nearly a self-supporting organization, requiring almost constant time and energy for ceaseless preparation and garnering, the spare time that remained, after these tasks and the social and spiritual rituals of church-going were done, was spent in producing marketable goods. Cheese was one of the small products of the farm, the selling of which was an important means of acquiring necessary extra income. It was relatively durable, convenient to transport, and in demand outside and in more distant centers of greater population. But the cash realized was meagre and for the most part went for necessities that could not be made or raised on the farm.

During the last quarter of the 18th century, Goshen was turning a great part of its abundant and excellent milk into cheese. By the early eighteen hundreds, the Goshen Cheese had as good a reputation as did the more famous "Cheshire" brand from Massachusetts, which had achieved most of its fame from the publicity given to a mammoth cheese, weighing 1,450 pounds, made in 1802 by the dairy women of Cheshire and sent by them to President Jefferson, who was so delighted with it that he sent large, pungent slices to the governors of the several states.

It is interesting to note that, in 1801, the quantity of Goshen cheese carried to market amounted to "at least 270,000 lbs., making an income to the farmers of about $24,000"—a sum which was, nearly equal to the income from all other sources combined. These other sources were, for the most part, from small industries. There was an oar factory and an important pottery, operated by the Brooks family, who taught the Nortons, of Bennington Ware fame, their trade. In nearby Canada Village, on a stream which furnished water power, were grist and saw mills and one firm that manufactured woolens.

The reputation of Goshen cheese had only just begun. As elsewhere in Connecticut, the inventive skill, ingenuity, practical sense and enterprise of the "Connecticut Yankee," which was, as the century advanced, to revolutionize the economic life of the state, began to work in a mild way in Goshen and to affect its cheese industry.

Lewis Mills Norton was the man chiefly responsible for this change. He was born in Goshen in 1783, of parents whose immediate forebears had helped settle the country in and about Goshen some fifty years before. They were a godly folk, hard-working, honest farmers, who created the pleasant open landscape and helped build the homely, comfortable village which now seems, to the hurried transient, to rest in contented retirement.

Lewis was the oldest child of his father's second wife and became the mainstay of the family after his father and two uncles had died of a "fever", contracted on a strenuous prospecting trip into the wilds of New York. This tragedy occurred in 1795, when Lewis was twelve. Though his formal education ceased at this time, his naturally inquisitive mind kept him seeking for knowledge, whenever he could find time after the long day's work on his mother's farm. In 1800, the family was able to hire a boy to attend to the farm, and, at seventeen, Lewis was apprenticed to a joiner, his older half-brother Theodore. During his apprenticeship, he attended night school in Litchfield, where he studied mathematics, surveying, and particularly religion. In 1805, by which time he had learned his trade, he married Laura Foote, of Canton, Connecticut, and they settled in his native town.

At first he worked at his trade. An uncle was building a brick house, just a mile east of town near the Norton Homestead, and the woodwork was young Norton's first commission as a full fledged carpenter! Here is good and interesting evidence to prove that the fine, simple woodwork found in so many of these country houses in New England was very often the work of these locally trained men, relatives or friends perhaps of the builder, and Lewis Norton belongs in the category of those master carpenters, now mostly forgotten, who were the architect-builders of New England domestic architecture.

In 1808, Lewis Norton was given a piece of Holland pineapple cheese by his uncle, who had brought it from New York. This interested him and gave him an idea. Another uncle, Alexander Norton, had used a vegetable substance called "annatto" to color his cheese and had found that he could sell it much more readily because it looked like the imported cheese. Perhaps, thought Lewis Norton, the good Goshen cheese, if made up in an individual form, would bring a higher price than the ordinary domestic variety. Shrewdly he worked on the problem of producing such a cheese, one that could be easily and practically made and sold cheaply. All he had to go on, according to family hearsay, was his uncle's description of the Holland cheese and the piece of rind. The result, which was naturally a different product from the imported original, was the now well known "pineapple cheese", the first of its kind in this country.

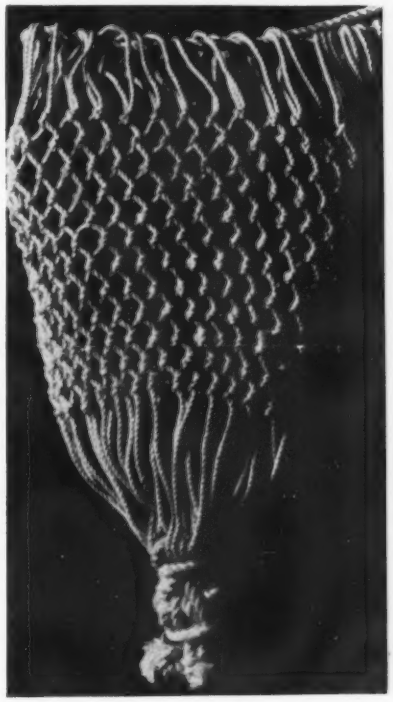
These cheeses were at first made of milk from the Norton cattle. As the enterprise during its first year showed that there was a ready sale for them at a price substantially higher than ordinary cheeses brought, he wisely obtained a patent in 1810. However, it was frankly an experiment, and the cash return, while sufficient to warrant further development if possible, was not such as to permit any neglect of farm work. Indeed, the needs of the family at this time were such that other sources of income were necessary, if he was to carry forward and expand his cheese-making enterprise. So, in 1814, he became a partner in a woolen firm — Walter Cobb & Company, in West Goshen, — and for the next twelve years he continued with this company. The raw material came from sheep raised locally on the farms

of Goshen and surrounding towns. At about this period, Connecticut was raising probably a quarter of a million sheep or more a year.

While with this concern, he devised a practical power loom, one of the first, and its use in this small village factory caused enough opposition and irritation to endanger Lewis Norton's life. The mill workers, like similar workers in the English mills, were naturally infuriated at being thrown out of work. He was the inventor, the disturber of custom and accepted practice, and the results, even in this remote village, typified a great industrial movement and a problem that is still calling for a solution not yet in sight.

The woolen firm failed and the other partners defaulted, but Lewis Norton insisted on paying his share of the debt, thus adding to the burdens of his struggling family. The pineapple cheese was bringing in some money, but not enough for their needs, and so he sought other employment. He was appointed the Litchfield County surveyor, and retained this position for forty years, doing his work with instruments he made himself. He also discovered a process for distilling hard woods to make pyroligneous liquid (acid), which was rubbed on hams and bacons, as a substitute for smoking, and a good many barrels of this were distilled on the Norton farm. One would think that, by this time, he had quite enough to do, but none the less he took up the very laborious task of raising woad, from which was extracted a blue dye, a cheap substitute for the rich and sturdy blue of the expensive, imported indigo. The income wrung from this back-breaking business helped the finances considerably.

By 1844, the woolen company debt had been paid and the family discontinued the raising of woad and devoted themselves entirely to producing pineapple cheeses. During the intervening years, they had steadily increased their output year by year. The whole family was engaged in it and, by this time, there were several lads "bound out" to Deacon Norton and young village girls came in by the day to help. In practically every room in the fine old house, someone was busy doing something connected with the business. A great deal of supervision was necessary, and this the Norton family quite naturally had to undertake. Either a daughter was showing one of the girls some special duty, such as making nets, or a son was directing the boys how to cut and sear the cheeses. The youngest apprentice usually had the job of hanging the netted cheeses on hooks in the boarded ceiling where they could dry. To do this he stood on the family lowboy, which had been relegated to the "cheese chamber" for more practical use. No person was without a special duty. In fact, it was a daughter-in-law, visiting at the homestead, who suggested that they buy the curds of



Pineapple Cheese Net

the neighboring farmers and have them brought to a central place where they could be made into cheese. Accordingly, a new building was attached to the back of the house. So the first cheese factory in New England was opened in 1844.

The firm round curds, wrapped in cloth and piled in a "curd wagon", were brought in from the surrounding farms every day from May to November, the period when the cattle were able to graze in the pastures and were producing the richest milk. No cheese was made by the Nortons from fodder-fed cattle.

The curds were cut into small chunks to bring out any extra whey which the farmers had not extracted before. The curds were next forced into wooden block molds, which were hollowed out to shape the curds into a pineapple-like form. They were then put into a coarse net bag having a diamond-shaped mesh, dipped for a moment into hot water, and hung up for a time. The net sank into the surface of the cheese and left its pattern thereon. The pattern was one of the characteristics of this cheese and did resemble somewhat the seed segments of a pineapple. After the cheeses had dried and ripened sufficiently, each was given a coat of varnish which rendered it impervious to almost any climate.

The pineapple cheese was no different from the ordinary cheese made in Goshen, except in its greater firmness and its color. The latter was a yellow coloring obtained from the pulp surrounding the seeds of the fruit of a tropical American plant, extensively used for coloring, not only for cheese but for butter. These colored cheeses could be sold at a higher price and competed successfully with the imported cheeses, in the face of the prevailing belief that imported goods were in some way better than the home product, even though the latter was of good quality, which in the case of this cheese appears to have been true.

At first only one size was made. In 1851, the Nortons put out a smaller size,—without much success, however. It was not until after 1881 that two sizes were made regularly,— six and four pounds. Around 1889, the firm added a third size of two pounds.

The cheeses were packed in special boxes which were made in sawmills nearby. Lewis Norton always went to see about the box making in the early spring, visiting the mill on the Brandy Hill Road over toward West Torrington and another up the old Gun Stock Road (so named after the fine black walnut which grew there and was ideal for gun-stocks). There was also a sawmill in Drakeville over Norfolk way, and a man named Lord had one in South Norfolk. Lewis Norton was very particular about how the boxes were made and was constantly improving them, as they had to be strong enough to withstand the rough treatment of shipping. Unfortunately there is no description of these early boxes and how they were packed. But in 1850, in a business letter, Mr. Norton says, "We have usually put them up four in a box. But lately we were putting one in a round box and these

packed in crates containing say twenty each." It is likely that they were shipped four in a box for a good many years previously, as no mention is made of packing before this.

In the early years, the cheeses were taken to New Haven, Hartford and Middletown, from where they were shipped to New York, Boston and Baltimore and, by 1830, as far as California. Great lumber wagons were stacked with crates two or three times a summer and driven to these Connecticut ports. Edward Norton, a son, began to drive such loads to New Haven in 1831, when only eleven years old. The trip took about four days and he usually stopped two nights, one going and one coming, at Scoville's Tavern in Watertown, about half way between Goshen and New Haven.

Although debts and mortgages were paid, the industry met with many difficulties, especially when other cheese manufacturers began to compete. Lewis Norton paid good prices for his curd, as much as the farmers could get from the outside markets for their plain cheeses. Beginning in 1850, however, the pineapple cheese was such a successful venture that there were attempts to undersell the Norton brand. The competitors were in nearby Connecticut towns, in New York State, and in the Middle West, and it was from the latter section that the greatest threat came. It is interesting to note Lewis Norton's own comments on the situation. In a letter to a firm that had been a steady customer he writes, "As you have doubtless known, the reputation of the Goshen cheese (common cheese) has for very many years stood higher in the market than that made in other parts of the country: — and it is under these circumstances we have been obliged to buy our own curd up to last spring inclusive. But the difference no longer exists. Owing to the introduction of the Factory System in Ohio, and the new facilities of transportation to your city, the case has become quite altered. By means of the former a better article is produced than is to be expected when the business is left in the charge of our ordinary good dairy women."

A son, Robert Norton, had gone out to Rome, New York, and started manufacturing pineapple cheeses there. The two Norton firms cooperated and were always in touch with each other. Robert Norton's cheeses were of similar quality to his father's and, in 1851, his cheese won the Silver Medal at the Maryland State Fair.

The Middle Western people could undersell the Nortons' cheese because they could get curd at a lower price and ship to New York more quickly by the rapidly developing railroads. In Goshen, the farmers were reluctant to sell their curd at any lower price than they had always received, as Mr. Norton pointed out in his letter. Therefore the Nortons could not lower their price without hurting their business. There was a glut of cheese on the market and it was sold at all kinds of prices. In 1851, Lewis Norton again writes, "Now we feel ourselves called upon to keep in view two objects. The first is to live it through and the second is to furnish the good people who make P. A. (pineapple) cheese in Chenango County (Ohio) with sufficient inducement to turn their attention to the making of good common cheese. If we cannot accomplish the second, we must if possible reach the first." He did live it through and, by cutting down production and selling all that was made, he thus kept his head above water while the other firms really fought each other. Their prices were lowered as much as possible but kept high enough to pay expenses. With a long standing reputation for fine cheese back of the Norton product, with patience and careful business acumen, Lewis Norton guided his and his sons' business out of the difficult time, but, in 1860, he died, leaving the business to two sons who were well trained, as they had been brought up along with it. Lewis Norton had nursed it for half a century and it was to go on for another forty-five years and develop to a size far larger than he had ever anticipated.

Now that transportation was so much easier and quicker, the demand for the cheese became greater, so that new ways to speed up production had to be found. The Civil War slowed things down, as such a product was a luxury, but, by 1880, the Goshen pineapple cheese industry had expanded to such an extent that the Nortons built a large separate wooden factory north of the house, where from ten to twenty men worked at cutting curds, pressing cheese in the big gang presses, hanging and crating.

The pineapple cheeses, now made in three sizes, were being shipped all over the world. There was little trouble from their spoiling in transit, as the whole process was scientifically tested and expertly handled, — one of the earliest cases of the successful combination of science, industry and farming. There were no long directions in business letters to wholesale dealers, as there had been in the 30's and 40's, explaining how to resear with hot irons the cheeses that had spoiled.

The farmers now brought their milk every day to the big east door of the factory, where there were scales to weigh it. It was tested and each man was paid according to the richness of his milk. It was run into enormous zinc-lined vats beneath which were steam pipes. Bought rennet, not the home-made product from calves' stomachs, was introduced with the annatto at just the right temperature. The curd was softer than that of earlier days, as the temperature could be regulated. The curd-cutter was made of strips of wire eighteen inches long which was dragged in two opposite directions through the curd, while it was still in the huge vats.

The gang press, which was used at a fairly early period, had been improved in a number of respects. There were several wooden molds, similar to the first wooden square ones, which were set in line so that each stopper was connected by the same rod and each mold in the press received pressure from above and from the sides at the same time. Before the curds were put in, a heavy cheesecloth bag was put inside the mold to keep the curds from sticking to the sides.

The opening which fed the molds was through the bottom of the pineapple and left a long "neck". When the cheese was taken out, after the cheese had hardened, this neck was trimmed off perfectly flat and the bottom seared. These necks were cut up and warmed with whey from new curds and then mixed with a new batch.

The bags that lined the molds were made by the women of the house. Considerable skill was required to make them, especially in the early days, as they had to be stitched by hand and in such a way that no seams would show on the cheese. Another Yankee inventor had perfected a machine for sewing and one of these was used by the Nortons soon after it was put on the market. The nets, in which the cheeses were hung to give them the proper markings, were made in the village; one woman made them for

twenty-five years. They were constructed in the same manner as fish-nets, with two or three slight differences and, once one had learned the trick, several could be made in a day. For the small nets the Nortons paid twelve cents apiece and for the larger ones more in proportion.

In 1889, the factory handled about one million pounds of milk (500,000 quarts). They were making three sizes of pineapple cheese, packed in round boxes with the name of the brand stenciled on the outside. The sizes, weights, and production for this same year were as follows: Large—6 lbs.—2,552 lbs.; medium—4 lbs.—12,474 lbs.; small—2 lbs.—33,346 lbs.

The making of these fancy cheeses had become a fairly elaborate process and was profitable so long as milk was cheap. Lewis Norton had seen the factory through one bad battle in 1850-54, but the price of milk rose so that the firm lost money. The factory moved to Rome, New York, in 1880, where Robert Norton had manufactured the cheese since 1847. Robert Norton, as a matter of fact, had moved his factory to Attica, New York, around 1881, and taken in a nephew, E. P. Norton, as a partner. By the time the factory had moved from Goshen, E. P. Norton had bought out his uncle's share and, when the L. M. Norton factory, which had moved to Rome, burned down, he took over the original trade-mark of his grandfather and continued manufacturing until 1931, when he sold out to the Kraft Cheese Company.

The pineapple cheese industry of Goshen was never either a large or important one except locally, and has long since been a thing of the past. There is, however, a certain interest inherent in any enterprise of this sort and particularly, in the present instance, from the standpoint of what this little industry typified in the community village of a past century.

The Village Carpenter, by Walter Rose, is an interesting compilation of the personal reminiscences of an English carpenter, including those of his boyhood when he witnessed many of the primitive operations which persisted in England much later than in this country,—pit-sawing, turning the lathe with the "great wheel", working with the draw-knife and shaving horse, pump-boring, bark-peeling by hand, etc.

Early American Farms

By Dr. Dixon Ryan Fox
President of Union College

(Read at Albany meeting)

In the early days of the Republic, at least nine Americans out of ten, even in "commercial" New England, dug their living from the land. Self-esteem, if nothing else, led them to glorify country life as the noblest state of man. "Those who labor in the earth," said Jefferson, "are the chosen people of God. . . . They are the most vigorous, the most independent, the most valuable citizens." Honest simplicity and manly self respect were virtues claimed for husbandmen, in contrast to the cunning found in towns, where traders filled their pockets by over-reaching other people—all sounding not unlike a passage from Plato or Vergil. One may smile who has noted among farmers no deep disgust for an unearned dollar when it chanced to come their way, but there was a core of truth in the praise of American agriculture as a basis of good citizenship. When land was parceled out to a great number of proprietors each owning in fee simple, with low taxes, without ecclesiastical encumbrances or feudal impositions, all transferable at will to any purchaser, the average farmer had a sense of liberty and opportunity which the tillers of the soil in most European countries might well have envied.

But if he had the admiration of philosophers, his methods drew only contempt from visitors acquainted with the scientific agriculture that was so rapidly developing in England under the leadership of Lord Townshend and Mr. Coke of Holkham. "Landed property is no longer an object of profit or pleasure," wrote William Strickland, an agent of the British Board of Agriculture, in 1801. Decline, he said, had pervaded all the states: in certain parts, because of long and slovenly tillage, production had shrunk to half of what it had been. He thought American farming yielded little more than a bare subsistence. Eastern farmers found that they had less and less to exchange for such necessities as they had to buy.

The typical northern farm, by description in the deed-book, comprised from a hundred to two hundred acres, seemingly a huge amount for one family's care in a day of hand tools. But a small part only was under cultivation at one time. In eastern Massachusetts the hundred-acre farm showed but half a dozen acres in crops, a little more in meadows plowed at infrequent intervals and about the same amount in permanent pasture. The rest, if cleared, lay fallow until such time as sheer exhaustion of the tilled soil forced the transfer of crops to these fields, which were supposed to have recovered their fertility during the period of idleness, or, rather, their devotion to weeds and brush. But generally this remainder was only partly cleared and served as woodland range for swine and cattle. The price of fair farm land, except near cities, averaged between ten and fifteen dollars an acre, figures which seem surprisingly high; many an eastern farm must have sold in 1800 at a higher price than it does with better buildings in the twentieth century. In later decades, when better regions further inland were opened up to settlement and furnished with facilities of transportation, when standards of a "bare subsistence" rose, when new forms of livelihood were developed which had a lower ratio of work to profit, many of these hillside farms, especially in boulder-strewn New England, were abandoned, leaving crumbling buildings to witness to ultimate good sense rather than to incompetence; it was finally realized that nature had destined such land merely to provide a verdant landscape or, possibly, wood for economic uses.

On good land, as well as bad, the farmer's methods were primitive and, by English standards, scandalously wasteful. To the modern scientific ego it seems he practiced "agricide", not agriculture. He knew little of the rotation of crops and would have been astonished to learn that certain plants would restore to the soil values that others had extracted. Maize was the mainstay of New England, "nearly as valuable to this country," said Timothy Dwight, "as all other kinds of corn united." Wheat was failing in that region, due in part to a blight of parasites harbored in barberry bushes. At the end of the eighteenth century, it lingered only in the western hills and in Vermont, and white bread largely disappeared from the Yankee's table, giving place to "rye and Injun," a bread made from rye flour and maize meal. It was a prosperous staple from New York to Virginia, until, shortly before 1790, it was attacked by the

Hessian Fly, so called because, it was erroneously said, it had been imported in the fodder bags of the German mercenaries during the Revolutionary War. Spreading rapidly, the pest had entered Virginia by 1790 and crossed the Appalachians in 1797. Jefferson, fearing the complete extinction of the ancient staff of life, induced the American Philosophical Society to make an elaborate study and report, and other agencies attacked the problem. Intelligence, as usual, averted absolute catastrophe; new varieties were found, especially the yellow-bearded wheat, that would resist the insect and, since it perished with the first frost, the planting date was put forward a month in some places with good results. It was seen, too, that better cultivated areas suffered less, and the Hessian Fly, in thus putting a premium on good farming, proved finally somewhat of a blessing. Rye, valued for distillation among the Scotch Irish and for bread among the Germans, was a staple crop, especially in the back country. Oats, of poor quality, were grown for horse-feed, and among the Scotch for oatmeal; barley flourished here and there in the Middle States, esteemed for beer; and buckwheat had some vogue in New York and New Jersey for fodder and occasionally for griddle cakes. Irish potatoes were making slow way to be a staple food in the North and, by 1800, were beginning to center in Maine and Long Island. Altogether New York seems to have been least unprogressive in agriculture; but there too the yield was low. Dr. Cooper observed that ten bushels of wheat per acre was considered a good average, though in France they raised eighteen and in England twenty-four.

Tillage was chiefly by the strain and sweat of human limbs. The disgusted Richard Parkinson warned any English farmer, who might think to migrate to America, that he would have to learn a new trade: "He will have to chop up trees and cultivate the land by the hoe and pick-axe, instead of the plow and harrow." But plows and harrows were available, of course, such as they were. The huge, cumbersome, community plow, that had traversed town fields in the northeastern colonies, had gone; isolated farmers now must have each his own equipment, generally home-made and not less clumsy. The common Carey plow was made entirely of wood, save for an iron coulter to cut the sod and oftentimes a sheathing of odd fragments of saw-plate, tin or iron sheets laid on the body, which itself did for share, moldboard and landside. With such an implement, an acre was a very good day's work. Light though it was, strong arms were needed to hold it in the ground and twice the pulling power was required. Oxen were most often used, for our rough, stubborn slopes, among the stumps and stones in the half-drained swales. The ox alone could hold his footing, and his steady, patient pull, under the driver's goad and his resonant "gee" and "haw", was worth infinitely more than the fitful spurts of the more sensitive horse. He could live on grass without grain and stand almost any exposure; when he closed his service at about the age of ten, he furnished beef and boot-leather. As the land was cleared and smoothed, during the early decades of the nineteenth century, and harder roads lamed the cattle, horses superseded oxen in many sections, bringing with them a larger use of the four-wheeled wagon.

The other tools of agriculture were few and poor. It is said that, at the beginning of the nineteenth century, a strong farmer could have carried them all on his shoulder, except his clumsy spike-tooth harrow, his sledge and his two-wheeled ox-cart. Generally he dug the ground with an iron-plated shovel, though, if metal were more plentiful, he pounded out his shovels and two-tined forks upon his own anvil or had them made at the nearest blacksmith shop. Wholesale manufacture made slow progress. A writer declared, in 1809, that there was no establishment making farm implements in America, but shovel factories had actually been established at Pittsburgh shortly after 1800 and, by 1822, one at Easton, Massachusetts, was turning out thirty thousand annually; the next year two works at Philadelphia were making cast-iron hoes. If one travelled as in the days of Herodotus, one reaped grain, for the most part, as in the days of Ruth, by the back-breaking labor of the sickle. The farmer, broadcasting his seed in the spring, gauged his area by what he could cut by this slow method during the late-summer days in which the ripened grain would cling to the stalks. At the end of the eighteenth century, a new contrivance was making its appearance, — the cradle, with its long scythe blade paralleled by a rack of wooden fingers. Swinging this with strength and skill, the harvester might reap three-quarters of an acre in a day. About Thanksgiving time, he beat the grain from the straw with his flail upon the barn floor and then held it in his half-moon basket for the wind to drive away the chaff. Then, ground at the neighborhood mill beside the waterfall, it filled his larder, or, binned in his stilted granary, it awaited the needs of the cattle — or the rats.

History has a way of enveloping familiar common nouns in confusion. The word *cow*, for instance, brought a very different picture to the American farmer in 1800 than it did to his successor a century afterward. The live-stock of the old times were lean and rangy, partly by degeneration that followed from neglect, and partly by adaptation to environment. The old "black cattle," compounded by chance out of all sorts of importations, now showed so many colors as to make the old name inappropriate; but they were even thinner and tougher than their ancestors. "The scimitar-ribbed, flat-sided, lubberly, big-legged cattle," cried our disgusted farmer, "what are they other than expensive masses of unimportant bone!" As the farms in the northern states matured, with better barns came better stock. The natural grasses, which grew lush on the bottom lands, were now less valued and the "artificial" timothy and clover, grown on high ground, began to cram the mows for winter feeding. Intelligent men deplored the custom of letting cattle run, in the milder climates to the southward, and feeding them from stacks in the fields. Wide-ranging cattle were often at the mercy of the forest beasts, and farmers, even in the older regions, had to keep alert to drive off wolf, lynx, wild-cat, panther and bear. Swine ran the woods for the mast to supplement the dairy waste, becoming as fleet as the woodland enemies they eluded; often their owner needed his gun to come up with them. Sheep were raised for wool, though the longest staple was scarce seven inches, as compared with English records of fiber twice as long. The small, long-legged, narrow-backed carcass yielded little food, even had the farmer desired it, but mutton, spoiling easily, was generally despised as unfit for the table. At the beginning of the nineteenth century, the average farm in eastern Massachusetts could show one or two horses, one or two yoke of oxen, fifteen head of cattle, including five dairy cows and about as

many swine, while, on half the farms, there were flocks of from ten to twenty sheep. When with early winter came the butchering season, there was fresh meat for a few weeks, but most of it had to be cured for future use, smoked, dried, or pickled in the brine barrels which lined every cellar.

Englishmen travelling in America missed the hedgerows that so pleasantly striped their native countryside. Americans themselves had once sought to mark the bounds of their fields in this traditional manner. Privet had been tried but had winter-killed or had been conscientiously destroyed in some places, under an impression that it exuded a mysterious poison that brought on epidemics. There were some who urged a revival of such planting; but hedges grew slowly and American farms must be developed rapidly. Stumps, laboriously pulled by ox-chain, often edged the fields, a grotesque *chevaux-de-frise* no animal would care to hazard. In glaciated New England and New York, stones were drawn out of the fields to better the tillage and incidentally to provide broad and sturdy walls, which were to stand a century or more until ground into roads for motor traffic. Wood was plentiful everywhere in the East and rails of chestnut or cedar were split for fences that were "horse-high, bull-proof and pig-tight," whether zigzagged or more thriftily set into posts.

The fields, as we have seen, surrendered their fertility to constant cropping and then were left some years in fallow. The systematic application of manure was rare. Where the cattle roamed wood-pastures through the year, it was impossible, but even in the north, where they were stabled, the accumulations of the barnyard were oftentimes considered rather a nuisance than an asset; what was weathered away from the pile was regarded as well lost. Now and then loads were dumped into the river. An Englishman, finding a great dung-heap against the barn of a farm he had purchased on Long Island, was advised by his neighbors to move the barn to prevent its rotting. Even after the Civil War, a Kentuckian could write that in his youth he never knew of manure being put on lands. Only near cities, where street sweepings were available, did small farmers generally put such offal to use. Along the shores of New England and Long Island, menhaden, or whitefish, were spread on the fields, to the olfactory distress of passers-by.

The old farm was generally a family unit. Extra hands at from fifteen to eighteen guineas a year, as Dr. Rush estimated wages, or at from six to twelve dollars a month, as others testified, were beyond the reach of the average farmer, though he might finance a man or two in harvest at fifty cents a day or an expert cradler at twice that sum. In a land of opportunity for ownership, no competent man need remain an agricultural hand. The hired man, where he could be obtained, was generally a youngster waiting his chance to conquer nature for himself, or a deficient man whom nature had conquered at the start. With labor difficult to hire, the farmer and his sons tilled and reaped for the most part unaided, and, except among the Germans and Scotch Irish, called upon the women folk for hard field work only in a desperate emergency; extensive farming such as was practiced in America made it difficult to combine work at the kitchen fireplace with that in distant fields.

Under all these conditions, it was useless and unfair to compare the agriculture of the New World with that of the Old, where a Yorkshire yeoman, for example, would employ eight or ten laborers on his hundred and fifty acres and spread eight or nine hundred loads of manure. "Though in America less grain is produced per acre than in England," wrote Dr. Cooper for readers across the sea, "they get more per man. Their land is plentiful and labor scarce. With you it is the reverse. Hence the accuracy of British and the carelessness of American cultivation." In farming "carelessly", perhaps the American was farming wisely.

The farmer's family could live in modest comfort, or at least security, by this kind of skimming agriculture, and there he stopped. He had little money income since he had little or no surplus. He raised no surplus because, generally, he had no market. He had no market because there were no large cities to consume what he might wish to sell, and, if there had been such demand, he could not economically have hauled his produce through bogs and over wood-grown hills without good highways. Farming, then, was a way of getting a living; it was subsistence, not enterprise.

To this generalization, however, one must note a striking exception. It is the fashion of historians to emphasize the isolation of America, as if the New World after independence had been unaffected by the Old. He who studies the transit of ideas or the waves of immigration will realize how far from truth this is, and certainly he who follows through the record of our economic life during the quarter-century after 1790. Consider, for example, the farmer in New York or Virginia, where fair land was convenient to water transportation. The call of warring Europe sounded in his grainfields. In 1800, seventy-eight thousand quarters of wheat were shipped to England alone and the following year, due to scarcity in the British Isles brought on by failure of crops, America supplied three and a half times as much. The farmer's prices were monstrous, amazing, reported a British consul. But, in the autumn, word came of peace between England and France. "It instantly operated almost like the hand of death upon all business," wrote a land agent in western New York. "Wheat, corn and flour have been constantly on the fall." The American farmer, the merchant and the shipper joined in a common prayer that "France and England get at Loggerheads" again. Whether or not as a Divine response to this entreaty, war broke out again in May, 1803, and, in early summer, farmers' wagons moved in procession to the wharves. Next year good harvests in England and a temporary opening of trade with Russia hurt the market for Americans, but, in 1806, when Napoleon had throttled Prussia, our fields were levied on again and prices reached a level never known before. In 1807, France and England began to blockade each other and, by the embargo, the United States blockaded itself; the shipment of grain to England was not four per cent of what it had been. Orders and laws and decrees from one or another of the three countries produced immense fluctuations during the period which intervened before the War of 1812. Among those who had a stake in world politics during that quarter-century was the well-placed American farmer.

Nevertheless, to the great majority, isolated as they were, such commercial changes meant little or nothing. The average countryman seemed invincibly conservative. In this later day, obstinacy is considered a defect; then, under the name of steady habits, it was thought a virtue. If the farmer did not yoke the same number of oxen to his plow, plant the same number of acres and that too "in the old of the moon," hoe the same number of

times and get the crops in on the same day as did his father and grandfather, he was shunned by the neighborhood as a visionary. Surrounding distance in itself prevented those multiplied contacts and varied observation which make for progress. But, as we have seen, in his circumstances there was no incentive to increase his output. He saw no neighbor getting rich by better agriculture; why should he disturb the old round that secured his comfort? America was supposed to be a land of individual variation, and in many ways it was; country life bred eccentricity in dress and manners that has been smoothed away by the standardization of later days. But the old routine of farming itself yielded very slowly.

Changes began to come by reason of experiments and renovation by those few who had markets and those who were indifferent to them. Farmers and truck-gardeners on the fringe of cities had unlimited incentive. Profits brought capital and gave stimulus to intelligent investigation. Land was valuable enough to warrant intensive cultivation and was cut into smaller and smaller parcels. A reviewer, speaking of such areas near Philadelphia, remarked, in 1806: "A grandson or great-grandson, at the present day, raises more produce, lives better, and makes a greater profit upon one-fourth of the land once occupied by his ancestors, than his forefathers did upon the whole individual tract." Dr. Dwight observed that, on Long Island, due to the influence of the New York market, farmers assiduously collected manure, even sending boats to Connecticut for it, and by its aid, along with whitefish, acres that had yielded but ten bushels of grain now produced four times as much. Farmers near Boston, too, as we have seen, bought street-scrapings from the town.

Much more publicity, however, was given to the efforts of the "gentleman farmers" living spaciously on large estates. Many of these had family fortunes made in commerce; some, like Robert R. Livingston and Stephen Van Rensselaer, had inherited generous rent-rolls; still others had made money in land speculation or had piled up property in professional practice. It was of these last that Dr. Rush remarked, "Many gentlemen of education among us have quitted liberal professions, and have found by their success in farming that philosophy is in no business more useful or profitable than in agriculture," — but few grew rich by practicing the precepts that they taught. The most influential was George Washington, who so methodized the administration of Mount Vernon that it almost paid its way. He was in regular correspondence with the leading agriculturists in England and was constantly experimenting with new seeds and processes, keeping scientific records of results. It was he, for example, who popularized the mule in America, contributing good stock through his importation of asses from Spain and France.

"Book farmers," such as these, had to rely on English works for guidance. But by reason of the difference in climate and soil, to say nothing of land-tenure, labor and social tradition, the American reader had to be wary indeed. In 1790, no work on American agriculture had been published in this country for a generation. In that year came a book by the Reverend Samuel Deane called the *New-England Farmer, or Georgical Dictionary*. But the most important works on general agriculture came from Maryland and Virginia. First among these were those of John Beale Bordley, a lawyer, who on his island farm of sixteen hundred acres, near where the Wye flows into Chesapeake Bay, conducted what was virtually an agricultural experiment station. In his *Essays and Notes on Husbandry and Rural Affairs*, he struck a new note in American agriculture: "it is not immediate income alone which the provident farmer aims at, . . . the soil must be preserved in full vigour." The three-field system that he had observed in Maryland — maize, wheat or rye, spontaneous rubbish pasture — he condemned, and even more heartily the two-field system that still plagued the soil of many sections. Instead he worked out charts for eight fields, including three of clover in the rotation, practically banishing the old naked fallow. Without the chemistry to know the actual contribution of legumes, he and his followers had hit upon a saving principle. He was especially severe on the waste of manure, due in his region to the absences of barns and stall-feeding; he pointed the contrast to the Pennsylvania Germans, who built tight stone barns, arranged so that one could drive hay wagons to the second floor over the cow-stable. Seeded hay should be much more widely used.

John Taylor, of Caroline County, Virginia, in his *Arator*, insisted likewise on a widely diversified crop system, but favored Indian corn, whose waste could be mixed with cattle dung to make useful manure. To Thomas Moore, of Montgomery County, Maryland, the great error of American agriculture was shallow plowing, which, as it left a hard substratum three or four inches below the surface, allowed the rains to wash away the topsoil and gave no room for roots to seek sustenance below. Thomas Mann Randolph, Jefferson's son-in-law, is credited with leading the movement for cross-plowing slopes so as to stay erosion. But Moore admitted that, most farmers being "men of habit", improvement in plowing would be slow.

The plow itself must first be improved, and this proceeded on two lines. That the curvature, which permitted the moldboard to turn the soil easily, could be scientifically determined was the discovery of that universal genius, Thomas Jefferson. Plowwrights could now build not by guess and chance but by a common pattern. The year before, in 1797, Charles Newbold of Burlington, New Jersey, patented a plow, which, save for beam and handles, was cast in a solid piece of iron. The double basis of the modern plow was laid. But most farmers stubbornly clung to the familiar wooden plow, claiming that the iron poisoned the soil and pointing out that when such a plow was fractured the whole must be replaced. Not until the eighteen-twenties, under various modifications, particularly that of the New York Quaker, Jethro Wood, who, in 1819, produced a plow of standard iron parts bolted together, did it come into common use. It was the gentlemen farmers who proved it.

They, too, experimented with gypsum, or plaster of Paris, as a soil amendment, bringing in boatloads from Nova Scotia, as well as tapping beds in Maryland, New Jersey, and New York. Robert R. Livingston, when Minister to France in 1803, even sent samples across the Atlantic. John A. Binns was its prophet in Virginia; Dr. Logan and Judge Peters in Pennsylvania, Professor S. L. Mitchill in New York; and others wrote learned treatises upon it. DeWitt Clinton in an oratorical flourish declared, "It has created a new era in agriculture," and Livingston believed that it had

(*Continued on page* 110, *column* 3)

Early American Industries Association

Early American Industries Association

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Communications should be addressed as follows: Pertaining to the *contents* of THE CHRONICLE, to W. B. Sprague. Suggestions for prospective members to Miss Eleanor Hudson. Other matters, to Burton A. Kollmer. Addresses as here given.

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Our Purpose

The purpose of the association is to encourage the study and better understanding of early American industry, in the home, in the shop, on the farm, and on the sea, and especially to discover, identify, classify, preserve and exhibit obsolete tools, implements, utensils, instruments, vehicles, appliances and mechanical devices used by American craftsmen, farmers, housewives, mariners, professional men and other workers.

Dues

The annual dues are payable September 1st, and are as follows: Regular members $1.00; Contributing members, $2.00; Supporting members, $5.00; Sustaining members, $10.00 and up. There is no distinction between the classes, except the amount of the dues, but the publication of THE CHRONICLE cannot be financed unless a considerable number of the members pay more than $1.00. Each member is expected to voluntarily place himself in the class which represents the amount he is willing to contribute to the support of the Association for the current year. THE CHRONICLE is sent to all members without additional charge. Many of the back numbers may be secured from the Treasurer for 20c each, and a twelve-page index to the twenty-four numbers of Volume I, containing a useful bibliography, for $1.00 each. For further information, address any of the officers.

Salem Pioneer Village

The annual demonstration of early American industries, held at the Pioneer Village, at Salem, Mass., under the auspices of the Salem Chamber of Commerce, was reported by the *Salem Evening News*, in part, as follows:

"The Cressy-Dockham Co., in cooperation with the Worcester Salt Co., showed how salt was made in old-fashioned tanks, the salt being made by the process of solar evaporation. Wallace S. Aiken, local roofer, spent some time on the roof of one of the huts demonstrating how the roofs were thatched in order to keep out the snow and rain seepage. The Salem Lumber Co. was in charge of carpentry and the sawing of logs in the sawpit. Shingles were made by cutting 18-inch blocks which were split into pieces with a wide-backed blade called a frow. These pieces were then clamped at the top of the shingle horse and shaved with a draw knife. Once more the heating exhibit was under the direction of George W. Pickering Co., with John T. Powers showing how logs were burned and charcoal made for home heating.

The iron-working shop operated by Perley Balser & Son proved of considerable interest. Here Mr. Balser heated the nail rod on the hearth by means of his bellows and then with a few blows of his hammer converted the blunt end of the iron rod into a spike. Then, seizing a bolster, he dropped a spike into one of the holes, separated it from the rod and, with a few heavy blows of his hammer, converted the iron sticking out of the bolster into a head. Frederick A. Farrington was in charge of the brick-making exhibition, which featured the operation of a crude cement mixer that was turned by horse-power. The bricks manufactured were dried with wood fires. Carl Sponholtz was in charge of the tool making exhibit, using instruments furnished by Christian Lantz. Al Phillips of the City Fish Market demonstrated how fish were dried on wooden slabs and made ready for use, while Harley Forsythe had an interesting collection of eye-glasses on display. The oldest pair of spectacles in the collection, which numbered about 25 pairs, dated as far back as 1775.

Many old-type religious books and a large exhibit of an old-fashioned printing shop made up the Lavender Printing Co. exhibit. The manufacture of pottery was demonstrated during the exhibit under the sponsorship of Daniel Low & Co. Shoemaking, one of the important industries, was demonstrated by Fred Turcotte, under the sponsorship of Turcotte Shoe Hospital. Mr. Turcotte and his assistant showed how shoes were made by the early settlers. Under the direction of Lorenzo P. Benet of the Salem Laundry, a huge cauldron filled with grease and lye was kept boiling as soap was made. The lye from wood ashes was used in making soft soap, it being explained by Mr. Benet that no hard soap was used by the settlers. A large number of tobacco plants were exhibited by P. T. Kenneally, while early communication was presented by the New England Telephone & Telegraph Co.

The Hygrade-Sylvania Corp. presented an interesting exhibit of early devices used for the illumination of homes. Included in the display were rushlights, lamps, saucer lamps, wick channel lamps, tinder boxes, and lanthornes. Flax culture and weaving, one of the most important industries of pioneer times, was presented through the courtesy of the Naumkeag Steam Cotton Co. The exhibit showed the flax and hemp put into the flax brake and then the hetchel used to comb out the large pieces. Ropes, shirts and candlewicks were made from flax grown here. More than 30 species of herbs were shown in the exhibit of early American pharmacy as presented by John E. Heffernan, Jr., local druggist. All sorts of early medicines and eating herbs were displayed. Garbed in colorful attire of the Colonial period, a group of women knitters attracted considerable attention. The group, which was under the direction of Miss Bessie Elwell, knitted ulsters, wristers, mufflers, etc. Mrs. Aime Michaud Radway of Newmark's Women's Shop was the village dressmaker for the day. Miss Marie Butler gave a demonstration of candle-making."

This issue is double the regular size to compensate for the omission of one number when sufficient material was not available.

Chimneys

By Frank K. Swain

Mr. Thwing's articles on stoves (Vol. I, No. 16; Vol. II No. 11) are so interesting that I would like to add a note or two. His statement about chimneys is not too broad because, if one or two flues are found in early castles, it should not upset his theory, any more than finding two knotty apples would prove an orchard.

When in England several years ago, I learned that the first and oldest fire flue was in Rochester Castle, in Kent, a fine specimen of Norman architecture, now roofless and without floors. The walls, built in 1126, are 12 feet thick and 104 feet high. A visit there is not very satisfying, as one may see only a small part, from recently built cat-walks.

In the Great Hall, a fireplace is built in the main outer wall and the flue slants upward and outward through the wall, about twenty feet above the fireplace and far below the roof level. Seen from the outside, this smoke-hole or flue-end looks as if a large stone had fallen out.

Rochester Castle was built about fifty years after William of Normandy (the Conqueror) was made king and about the time he was granting favours to his Norman followers. This flue idea may have been brought from Normandy. That it did not work satisfactorily is not proven by the fact that others were not immediately built. An Englishman never stampeded for inventions or improvements and certain it is that when the great Abbots' Kitchen at Glastonbury Abbey was built one hundred and seventy-seven years later, in 1303, four huge cooking fireplaces or alcoves were built against the walls and without flues, the smoke rising to the roof and escaping through double louvres in the cupola. The kitchen is open to the roof, 72 feet above the hearths, and the roof is pyramidal in shape, with the thought perhaps of speeding the smoke to the louvres. The Monkish cooks would be doing penance in that room.

Three hundred years after Rochester Castle was finished, the great Doune Castle, near Stirling, Scotland, was built (early part of the 15th Century) and is described in Sir Walter Scott's *Waverly*. In the center of the Great Hall, one sees the double X or saw-buck-like andirons against which the billets of wood leaned, when burning, with the smoke escaping through an upper tier of windows. This human bacon smoking was from pure stubbornness or a craving for ancient customs, because in the adjoining room, the kitchen, an enormous fireplace, the length of the room, had been built with a flue that probably ran to a chimney stack above the roof. The Lord of the Castle provided for his cooking help what he himself did not enjoy. He probably had modern help.

In the left corner of this fireplace and on the floor level, there is a hole, a foot square, through the wall which Sir Walter Scott said was the handsomest sight in all Britain. This was probably an ash-drop or for the dumping of garbage or dish water into the river far below. Lying down on your stomach and looking out through the hole, you see, like a framed picture, mountains, hills, valleys, the river and little villages miles away.

P. S. — I now find Chamber's *Encyclopedia* states that "the earliest examples of fireplaces with chimneys are those in the Norman Castles of Rochester and Castle Hedingham erected in the 12th Century with a flue aperture in the outer wall. These were no doubt found very smoky and inconvenient and ultimately the chimneys were carried to the roof." I do not know Hedingham Castle, in Essex, as all that remains is the Keep or Great Central Tower. As it was built in the time of Stephen, it would be a few years later than Rochester Castle, and this again suggests Normandy.

Horsford and Nichols Safety Lamp and Safety Can

By Burton N. Gates

E. N. Horsford was Professor of Chemistry at Harvard University; Dr. J. R. Nichols lived at Haverhill, Mass. In 1852, among advertisements in a railroad timetable, there appear, over Prof. Horsford's name, descriptions of inventions to render the use of "Burning Fluid" less hazardous. It was a "purely original invention, being entirely different from anything heretofore presented to the public for protection in the use of Burning Fluid." This reflects common dangers experienced in illumination at the period. It implies experimentation, wherefrom Prof. Horsford proclaimed, "Burning Fluid accidents can be prevented." Previously, he had presented a paper before the American Academy of Arts and Sciences, entitled *Explosions in the Use of Burning Fluid*, from which he quotes, saying that he had been "successful in devising expedients that should render safe, even in the hands of the unskilled and careless persons, the use of so cleanly, economical and desirable a source of illumination." The successfully devised expedients were "Horsford and Nichols' Safety Lamp [See The Chronicle, Vol. I, No. 11, p. 3, for description and illustration; a patent was issued in 1855.] and Safety Can," the latter for storage and filling.

"The Safety Lamp possesses the following peculiarities: 1st, the wick cannot fall or be thrust down; 2nd, overflowing of the wick tubes, or flooding, is prevented; 3d, little or no loss of fluid will attend the accidental overturning of the lamp in filling; 4th, the cap is secured to the reservoir, by both an inner and outer layer of cement; 5th, the wick comes nowhere in contact with the wire gauze; 6th, explosion of the lamp is impossible."

"The Safety Can is so constructed that all danger of explosion is removed; and all loss by spilling or evaporation is prevented."

The lamps and cans were offered at wholesale and retail by R. H. Spaulding, Nos. 8 & 9 Tremont Row, Boston, who was "Agent for New England."

Early American Farms

(*Continued from page* 108, *column* 3)

"changed farming from a rational amusement to a profitable employment." But it was noticed that it had no influence in sandy regions along the coast, and eventually this "universal manure" was relegated to sour lands where it really had beneficent effect. Another new soil amendment was marl, early used in Maryland and New York, where calcareous deposits of marine shells were abundant. Its aid to acid soils was gradually recognized and, beginning in 1818, Edmund Ruffin spread its use throughout the upper South.

(*Continued in next issue*)

Early American Industries Association

Membership

Membership lists should be amended as follows: (N) indicates new member; (S) indicates non-member subscriber; (Ch) indicates change of address; (D) indicates decease; (R) indicates resignation; (Co) indicates correction.

CONNECTICUT

Hartford: Warner, Mrs. Herbert, 217 Beacon St. (N)
Norwich: Eshbaugh, Miss Mary G. (R)
Willimantic: Butman, Miss Marion F., 123 Spring St. (Ch)

ILLINOIS

Bloomington: McLean, Dr. R. W., 1516 E. Olive St. (N)

MASSACHUSETTS

Harvard: Welch, Mrs. Eleanor Hudson, Still River Village (Ch)
Longmeadow: Estey, R. B., 663 Longmeadow St. (Ch)
Newton: Bacon, Mrs. Frederick (R)

NEW JERSEY

East Orange: Robertson, James A., 14 S. Harrison St. (N)
Union City: Pentland, Mrs. Peter, 4660 Hudson Blvd. (Ch)

NEW YORK

Delmar: Wyant, Major L. B., 1 Elsmere Ave. (Ch)
Hamilton: Whitnall, Harold (N)
Mount Vernon: Segersten, Mrs. Alice H., 50 S. 2nd Ave. (N)
New York: Alk, George, 521 5th Ave. (Ch); Cushman, Paul, 117 E. 72nd St. (N); Gerlach, George W., 52nd St. and 7th Ave. (N); Hotchkiss, G. B., New York University, Washington Sq. (N); Karn, Miss Estella H., 2 W. 45th St. (N); Newman, Harry Shaw (R); Tachau, Miss Hannah, 336 Central Park W. (Ch); Warren, Charles C. (R)
Southampton: Tillman, General Samuel E. (R)

NORTH CAROLINA

Chapel Hill: Hobbs, Richard J. M. (N)

VERMONT

Williamsville: Cummings, Miss Betty (Ch)

VIRGINIA

Williamsburg: Van Rensselaer, Stephen (R)

The Questionnaire

A questionnaire recently received has been tabulated as follows. For key to abbreviations, see page 7.

NORTH CAROLINA

Chapel Hill: Richard J. M. Hobbs (C). Collects FT, MA, TC. Wants LP. Write *.

A Rhyming Truss

By SIGMUND EPSTEIN, M.D.

In lower New York a dealer in bandages and appliances for the ruptured found it good business to advertise himself, as proficient in the art of supporting weak structures of an intimate kind.

The following is quoted from the *New York Sun of* 1836:

In Beekman street, at Thirty-Nine,
I've Patent Trusses, every kind;
They vary much in shape or form,
But suit the case where they are worn.
Some springs are short, but others long.
And some are weak, but others strong.
I've anything for Hernial kind,
To fit the case or please the mind;
Bandages, I have a plenty.
Grosses, more than five and twenty,
Cotton, silk and India Rubber.
Which set with ease, and do not murder.

A. M. BOUTON.

The very nature of weaknesses of this character permitted the practitioners of irregular medicine to flourish. Doctors were not skilled in the art of pushing back these abdominal protrusions, druggists did not engage in the sale of trusses, and there were no mail-order houses. Surgical operations on them were not skillfully done, were often unsuccessful, and deservedly unpopular. The injection method of treatment had never been dreamed of. And so it came to pass that the rhyming Mr. Bouton, who quite possibly was an honest man, engaged in a business which later became a near-racket.

There were others in the field before him. About 1725, there appeared in Paris a series of clever caricatures by an engraver named Larmessin. The subject of one of these was a *bandagiste*, a dealer in surgical goods, bandages, scissors, and a variety of trusses. The series had a wide circulation, leaving no room for doubt that Mr. Bouton was a worthy successor of a highly respected group of tradesmen. Possibly the skilled mechanics or fitters of such apparatus were banded into a guild.

Mr. Bouton and other dealers in trusses were not, however, alone in their endeavors to supply "anything for Hernial kind, to fit the case, or please the mind." He had to compete with home remedies. Too often, half of a potato and a leather strap served the purpose; stones and small sandbags were likewise useful. These were placed against the rupture and bound in place by the turns of a long bandage. Such wearers of the home-made variant of the modern spring truss found that it had the disadvantage of slipping: at times they even noticed that, by eventide, they would be sitting on it.

So Mr. Bouton found it paid to advertise. He sold trusses with a molten metal pad held in place by means of strap. Then, too, there were the first spring trusses which he immortalizes in his verse. The best of this type were obtainable from Germany, made of a kind of spring metal or clock-spring steel, bent with difficulty, and yet efficient in preventing the hernia from coming down. They were quite incapable of being shaped, so if Mr. Bouton could see our modern individually-made frame trusses, each fitted to the patient's person, and padded with soft pressure bags of powdered rubber, he would be forced to admit that:

"The truss of to-day, like the one-hoss shay,
Excels and satisfies in every way."

In its write-up of the Tunbridge, Vermont, annual "World's Fair," which was held on September 20th and 21st, the *Christian Science Monitor* says, in part:

"Memories of those ancient days constitute the chief glamor of the Tunbridge Fair today. Artisans, descendants of the early settlers, show how shingles were shaved by hand and wood once sawed at the snail-like pace of 2,000 feet a day. An up-and-down sawmill, so-called, built more than 100 years ago, is now a permanent part of the Fair. Operation required a tremendous volume of water. Hence, the mill operated day and night when there was high water.

There is part of a corn crib that was so green at the time of the Indian raids that it would not burn when the rest of the valley was laid in waste. In the antique exhibit assembled by the tireless secretary of the Union Agricultural Society, Edward R. Flint, there is a priceless array of old-time tools, vehicles, and farm machinery. In this exhibit is a light-running sled equipped with food tank and a two-quart water keg used on 'flying trips' to and from Boston for wool and cotton products."

COMMUNICATIONS

From MR. JOHN M. CONNOR:

"The article which was the subject of inquiry by Mr. J. Earle Bacon in your March issue is illustrated and listed in a catalogue of cooking utensils and apparatus issued in 1886 by Duparquet, Huot & Moneuse Co., New York City, as 'Box Column Cutters,' coming in three sizes, — small, medium and large. In a cook book by Pierre Blot, published in New York in 1868, one of them is illustrated over the caption 'Fruit Corer' and the accompanying text states that 'There are many sizes in the set, to core from a pineapple to a cherry'."

From MR. J. EARLE BACON:

"I was much interested in the article in the December CHRONICLE by Mr. Lawrence B. Romaine anent a surveyor's level. We have here at the South County Museum four items with the same characteristics of construction, all made of very heavy San Domingo mahogany with very heavy brass parts. One is a carpenter's level having two side-view holes for observation of the air bubble. The screws used are of the old blunt type. I understand the Sloan patent, making possible pointed screws, was of 1846 date. This level is marked 'J. & H. M. Pool, Easton, Mass., Patent', and has a conventional spread eagle with shield and spray in claws. The second (from a different source) is a device for measuring angles, with a swinging arm, two feet in length, iron leg marked for ten inches with scale running from one to twenty and with fine sub-divisions; the head is of the same heavy mahogany and heavily bound with brass. The third item is a surveyor's field sketching-board with letters for north, east, south, and west, and device for holding drawing paper, also of very heavy mahogany. I pity the chap who had to use it, as it must weigh fifteen pounds. The last is a 'spitting-image' of Mr. Romaine's surveyor's level, hand-made and pinned tripod of oak, compass dial, hand-drawn, and all numerals hand-made (not simply put on with diestruck letters, but cut with a hand graver), the wooden portion of heavy mahogany and the brass work very thick. The last three items came from a very old farm in the Brockton area of Massachusetts, there having been a surveyor in the family some hundred or more years ago. The numbers on the alidade and compass are hand-scribed, but the name 'Pool' appears on only two of the items, — viz., the alidade and the level; and the eagle does not appear on the former. It is a possible assumption that all four were made by the Pool firm as they would appear to have made instruments of precision."

From PROF. O. M. DICKERSON, *of Colorado State College*:

"Industrial and commercial development has long been recognized as an important phase of American life. From time to time, historians and writers in other fields have engaged in research and produced and published important studies which have thrown light upon certain aspects of the subject. In recent years the number of individuals throughout the country devoting activity and interest to industrial history has steadily increased, until it is evident that the time has arrived for organized attention to this field upon a broad basis. An Industrial History Society should be formed and as a national body endeavor to solve existing problems with relation to the evolution of industry and commerce.

Such a Society should have among its objectives, the encouragement of the study, writing and teaching of industrial and commercial history; the preparation and publication of inventories and descriptions of collections of business records, in known depositories; the locating and making available of hitherto unknown collections of business records; the promotion of a spirit of cooperation between those interested in the history of industry and commerce, and those owning and administering current business enterprises; the offering of counsel and advice to individuals, companies and corporations concerning the preservation of their business records; and the publication of a Journal to contain articles, documents, book reviews, news items, notes on contemporary literature, etc. While many members of the Society would be interested chiefly in American industrial and commercial development, the scope and variety of interest of the organization should not be limited to place or time, but cover all countries, all ages, and all phases of pertinence to the subject.

A luncheon meeting for the purpose of organizing an Industrial History Society has been arranged in connection with the coming meeting of the American Historical Association at Washington, D. C. This luncheon is scheduled for Saturday noon, December 30th."

[This call was subscribed by a committee of eighteen eminent gentlemen, hailing from all parts of the country, and including President Lewis N. Wiggins. In our next issue, we hope to report the progress made in organizing the new Society. — ED.]

From MR. WILLIS H. ROPES:

"It is gratifying to learn from Secretary Kollmer that my article on *The Essex Institute Collection of Buttons* in the September, 1937, issue of THE CHRONICLE has been much read, and was helpful and informative. The reference to the Emilio Collection of military buttons, and the book describing each one, published by the Institute in 1911, with ten plates, has brought orders for it, from all over the United States, and largely exhausted the limited edition (price $3.00), and collectors report they have found it very useful. Our large collection of dress buttons, left to the Essex Institute by Miss Messervey in 1893, and arranged in sixty trays in our large coin cabinet, — not by types or age but to make a pleasing effect,—have frequently been pronounced by visitors, especially large collectors, as the most beautiful set they have ever seen. We have had so many inquiries, regarding materials and sources of buttons, about which collectors desired information, that I made a summary of a twelve-page article on button manufacture which I found in the Census of 1900, published in 1902, Vol. IX, pages 316-27. This summary was printed in the February, 1939, issue of *Hobbies*, published at 2810 South Michigan Avenue, Chicago, and will be helpful to all collectors.

Improving the opportunity to renovate our portrait gallery, where other collections are shown in cases, during the winter months when our attendance of visitors, who come to see our large exhibits of historical and colonial treasures, is naturally materially lessened, the Essex Institute has *closed* its portrait gallery and other sections (except the library) on the second floor, *until after March 1, 1940.* We are confident that the freshened effect will be greatly appreciated by the thousands who visit us every summer and voice their enjoyment of the historical treasures of Salem. It can be safely stated that there are more worth-while items of historical interest to be seen in Salem, within one mile from the center of the city, than in any other place in New England."